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ABSTRACT

Sex differences in activity selection or choice appear by age 12 or 18 months. These choices are one of the earliest indicators of sex differences in the behavior of young children. Differences in activity participation or toy choices are evident long before the emergence of sex differences in personality characteristics like passivity or sex-typed behavior like aggression. Some theorists view sex-typed participation in activities as an outcome of an already developed gender identity or as an outcome of differential reinforcement or modeling. Sex-typed behaviors can be learned in at least two ways. In the first, antecedent events such as participation in sex-typed activities and toy preference lead to sex-typed behaviors of passivity and aggression. In the second, sex-typed behavior like aggression leads to a preference for sex-typed activities, toy preferences, or dress-style. Assuming that participation in sex-typed activities is an antecedent of sex-typed behavior, there is evidence that changes in sex-typed behavior can be expected as a function of exposure to or participation in activities. (Author/HLM)

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Sex-Typed Activities:

Cause or Effect?

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Sex differences in selection or choice of activities appear by age 12 or 18 months. These choices are one of the earliest indicators of sex differences in young children's behavior. Differences in activity participation or toy choices are evident long before the emergence of sex differences in personality characteristics like passivity, or sex-typed behavior like aggression (Block, 1976;Maccoby & Jacklin,1974). Some theorists view sex-typed participation in activities as an outcome of already developed gender identity (Kohlberg,1966) or as an outcome of differential reinforcement and/or modeling (Mischel,1966). The following represents a simplified version of two models of how sex-typed behaviors are learned. The examples have been deliberately over-generalized to help make clear distinctions between the models.

Model	Antecedent Events	Consequent Events
A	Participation in sex-typed activities, toy preference	Sex-typed behaviors like passivity, aggression, activity level
B	Sex-typed behavior like aggression, or activity level	Preference for sex-typed activities, toy preferences or dress-style

Past theoretical positions viewed sex-typed activity participation as a consequent event--an outcome of, for example, self-knowledge or reinforcement (as in Model B). Clinicians and experimenters have used Model B exclusively to measure child sex-typing by determining a ratio of masculine or feminine activity preference to total activity or toy preference (Brown,1956,1957; Rabbon,1950; Sutton-Smith, Rosenberg & Morgan,1960; Rekers,1979). This ratio of masculine or feminine activity preference (as a consequent event) was then employed as a criteria in the determination of gender appropriate behavior. Gender appropriate behavior reflected the child's appropriate degree of sex-typing and degree of masculinity or femininity.

This paper assumes that participation in sex-typed activities is one antecedent of sex-typed behavior, rather than the result of it. In this role, activities contribute to the degree of sex-typing in the young child (as in

Model A). Changes in the child's sex-typed behavior (consequent events) can be expected as a function of exposure to, or participation in activities. This hypothesis is supported if: sex differences in activity exposure are early and consistent; sex-typed behaviors like aggression are correlated with specific activities; that although activities are sex-typed, within an activity boys and girls display similar behavior that is characteristic of that activity, and that we can demonstrate experimentally that activities influence behaviors.

Children are in activities from the time they begin to manipulate objects and play with toys. Activity participation is sex-typed from an early age also, by 12 or 18 months. Boys prefer trucks, blocks, rough and tumble play, while girls prefer doll play, dress-up, and housekeeping play (Block,1976; Hurlock,1934; Maccoby & Jacklin,1974). Sex-typed activity participation is consistent throughout childhood and into adulthood (Crandall & Battle,1970; Kagan & Moss,1962).

Another area which shows consistent sex differences from an early age, and which may reflect differences in activity exposure, is the well documented difference in visual-spatial abilities (Block,1976; Maccoby & Jacklin,1974). Sherman (1967) suggested that the striking difference between the visual-spatial abilities of boys and girls is the result of differential participation in activities which allow children to practice and learn different behaviors. In other words, male superiority of visual-spatial analysis may result from the greater time boys spend playing with blocks and construction toys. There is no normative data correlating high amounts of block play with high visual-spatial abilities. However, recent reviews of the literature discount an alternative hypotheses which attributes the visual-spatial superiority of males to genetic factors (Sherman,1974,1975,1978,1979; Sherman &

Fennema,1977,1978). More studies provide inferential evidence that boys and girls are exposed to different opportunities to learn visual-spatial behaviors. In these studies boys' and girls' level of visual-spatial skills were equalized by training (Connor & Serbin,1977; Goldstein & Chance,1965; Vandenberg,1975). In one study scores were equalized by a minimal 5-minute training procedure (Connor, Serbin & Schackman,1978).

Both sex-typed activity participation and sex-typed behaviors begin early. Many behaviors are sex-typed from an early age, although they do not appear as early as the sex-typed toy or activity preferences. For example, boys are more active and aggressive, girls show more compliance toward adults, and prefer closer proximity to adults than boys (Block,1976; Maccoby & Jacklin,1974). The causal link between these domains has not been established. Previous theoretical and correlational research suggests that sex-typed behaviors determine sex-typed activity participation. In other words, active, aggressive boys, choose rough and tumble play. However, the reverse direction of causality is equally plausible--that certain activities encourage activity specific behaviors from participants, and once a child is engaged in an activity, these behaviors will be more likely to occur.

Some behaviors, many of them sex-typed, are correlated with specific activities. In a review of ecological research in natural settings, Gump (1975) reported three studies which show that activity participation influences the occurrence of activity specific behaviors. Activities were correlated with characteristic behavior on the part of children engaged in the activity during nursery or preschool free play periods. The block activity was correlated with aggressive and destructive behavior, while art activities were correlated with more constructive behavior and doll play was correlated with positive and more complex social peer interaction (Houseman,1972;Rosenthal,1973;Shure,1963). In these studies, sex differences were reported in activity choice and amount of

time spent in the activities, but not reported in the behavior of the children once in an activity. These data suggest that participants are more likely to perform, and potentially practice and maintain specific types of behavior when in certain activities.

Findings that boys and girls display similiar behavior in the same activities lend evidence to the hypothesis that activities prompt and encourage specific behaviors. In a normative, correlational study of children in 5 classrooms during preschool free play periods, Carpenter and her colleagues (Carpenter, Huston-Stein & Baer,1978; Carpenter,1979; Carpenter & Huston-Stein,in press) found that boys and girls display comparable amounts of compliance while in activities with high amounts of adult structure, and that they engage in similar amounts of novel behavior when in activities with little adult structure. Structure was defined as the extent to which rules or guidelines prescribing appropriate performance was imposed by forces external to the child. Structure takes one of two forms; the child may observe adult models, (Model Availability) or receive direct feedback and instructions from adults (teacher feedback). It was hypothesized that little structure from external sources allows children to improvize their own novel, creative or imaginative behavior. Likewise, a high degree of structure was thought to encourage compliance--since compliance is often an indicator of one person acquiescing or accomodating to another person's demands, however direct or indirect. Both hypotheses were confirmed.

In the study, each of the classroom's free play activities were ranked by the amount of structure they provided to child participants. Participation differed for boys and girls--boys participated more than girls in the low structure activities, and girls participated more than boys in high structure activities. Within structure levels, however, girls and boys behaved similarly.

The same sex differences appeared when activities were classified by model availability. The structure effects remained when the data were compared by classroom (Carpenter, 1979).

The Carpenter and colleague's results are important support for the activities hypothesis since novel and compliant behavior occurred as a function of the activity structure level, rather than as a function of the sex of the child. In the literature, sex differences in novel and compliant behavior are well documented. Boys show more novel and creative behavior, while girls show more compliance toward adults. Also critical is the analysis of characteristics of the activity which might be responsible for the development of sex-typed skills. This line of research provides direction for further investigation of the relationship between activity participation and the development of sex-typed behavior. One important aspect of learning sex-typed behaviors may be participation in activities that vary in structure level.

We can draw further evidence to support the activities hypothesis from a series of clinical, experimental studies. Although not explicitly specifying activities as the modifier of sex deviant behavior, Rekers and his colleagues used sex-typed activities to diagnose gender inappropriate behavior, and to teach sex-appropriate behavior to gender disturbed children (Rekers,1975;Rekers, Amaro-Plotkin & Low,1977; Rekers & Lovaas,1974;Rekers,Lovaas & Low,1974:Rekers & Mead,1979;Rekers & Rudy,1978;Rekers & Varni,1977 a,b; Rekers, Willis, Yates, Rosen, & Low,1977; Rekers & Yates, 1976; Rekers, Yates, Willis, Rosen & Taubman, 1976; Rosen, Rekers & Frair,1977). Children were observed, then diagnosed as gender disturbed by the proportion of time they spent in sex-inappropriate activities during free play periods.

In the Rekers and colleague's studies, children's gender inappropriate behavior was modified in one or more of three ways: they were trained to play in sex-appropriate activities; they were trained to use correct speech, and they

ere trained to exhibit sex-appropriate mannerisms. Most of the modifications decreased sex-inappropriate child behaviors by training parents to cue, and attend to the child in sex-appropriate activities. Parents were also trained to use differential attention contingent upon appropriate sex-typed speech, and to use a response cost contingency and modeling or manual guidance to occasion sex-appropriate mannerisms (see above studies, and Ferguson & Rekers,1979; Rekers & Varni,1977a).

The paradigm used by Rekers and others is that illustrated in Model B. Activity preferences reflect sex-typed behavior--a high proportion of inappropriate activity preferences reflect gender disturbance. Participation by a gender disturbed child in sex-appropriate activities makes the child appear "normal" since by definition appropriate behavior is reflected in appropriate activity preference. Of course, other mannerisms, and speech patterns mark our hypothetical gender disturbed child. The point here, is that activity participation is a primary reflection of the "normal or abnormal" label.

The Reker's work shows consistent and long lasting results and generalization. The success of his interventions are attributed to the reinforcement paradigm of differential parent responding to gender appropriate behavior. While not underestimating the careful and systematic methods used by Rekers, one may extend the interpretation of results further, based on the Carpenter, Gump, and Sherman data presented above (Model A). According to these data, mere participation in an activity will occasion behavior specific to that activity. Participation in highly masculine activities, regardless of how the child gets there (i.e. differential parent responding), will teach masculine sex-typed behaviors. Thus, in the Rekers data parent cues, prompts, and social reinforcers insure that the child comes in contact with gender appropriate activities. However, sex appropriate behavior was established and maintenance virtually guaranteed by teaching the child behaviors which put him or her in contact with nat-

ural environmental contingencies (i.e. sex-appropriate play activities).

Because a behavior can be controlled in the laboratory setting, or put under the control of powerful reinforcement contingencies, we cannot rely solely on this kind of experimental data to establish causal relationships for behavior occuring in the natural environment. However, training data which reiterates the findings of normative data adds strength to the conclusions. In this case, the Reker's experimental data reinforces the conclusions of the Carpenter and colleague's data,and Gump's review of normative data.

The effects of activity participation on the sex-typed behavior of young children is an important topic because of the evidence that parents train and reinforce differential activity preferences in children rather than directly socialize other sex-typed behavior. In fact, studies of socialization show few clear sex differences in interaction, stimulation, warmth or rewards (Maccoby & Jacklin,1974). There are regular differences, however, in the amount of encouragement and reinforcement of sex-typed activity and toy choices. Both parents, but especially fathers, are likely to punish or discourage sons from playing with feminine toys (Lansky,1967; Fling & Manosevitz,1972; Fagot,1973, 1974,1977,1978a,b,c,d,1979). Other studies found that boys are more likely to avoid these sex-inappropriate activities than were girls (Hartup & Moore,1963) and that boys and girls had different kinds of toys in their rooms and often in all play areas (Rheingold & Cook,1975).

Although the parent socialization evidence seems to indicate that early activity choices may originate with parents, sex differences in activity choice are consistent throughout adulthood (Crandall & Battle,1970; Huston-Stein & Higgins-Trenk,1977; Kagan & Moss,1962). Given this trend, the important question becomes the consequences of continuous participation in sex-typed activities.

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